AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. The following listing provides the amended claims with the amendments marked with deleted material crossed out and new material underlined to show the changes made.

Claims 1-20 (Canceled).

Claims 21-25. (Cancel).

26. (Currently Amended) An integrated circuit comprising:

at least one metal layer comprising at least one thousand ~~two pairs of~~ conductors effectively deposed in an effective preferred direction to interconnect one or more points within ~~on~~ the integrated circuit, the effective preferred direction comprising a direction for at least forty percent of the conductors on the metal layer, ~~wherein a conductor comprises one or more wires, each wire being a continuous segment deposed in a single direction,~~

each conductor ~~pair of conductors~~ comprising:

a first wire deposed in a Manhattan direction relative to the boundaries of the integrated circuit, the first wire comprising ~~a first wire length including~~ first and second ends; and

a second wire deposed in a diagonal direction relative to the boundaries of the integrated circuit, the second wire comprising ~~a second wire length including~~

first and second ends, the first end of the second wire being coupled to the second end of the first wire;

wherein, the effective preferred direction of each conductor ~~the pairs of conductors comprises~~ defines an angle, A, measured relative to the boundaries of the integrated circuit, the angle A being defined by the expression Tan A = Y/X; and

wherein, Y comprises a line segment with a distance starting from the second end of the second wire ~~in the last conductor pair~~ and ending at an intersection with a line segment propagated from the first end of the first wire and in the direction of the first wire, and X comprises a distance, measured in the direction of the first wire, starting from the first end of the first wire and ending with the intersection of the Y line segment.

27. (Original) The integrated circuit as set forth in claim 26, wherein the Manhattan direction for the first wire comprises a horizontal direction.

28. (Original) The integrated circuit as set forth in claim 26, wherein the Manhattan direction for the first wire comprises a vertical direction.

29. (Original) The integrated circuit as set forth in claim 26, wherein the diagonal direction comprises a plus 45 degree direction for the second wire.

30. (Original) The integrated circuit as set forth in claim 26, wherein the diagonal direction comprises a minus 45 degree direction for the second wire.

31. (Original) The integrated circuit as set forth in claim 26, wherein the diagonal direction comprises a 60 degree direction for the second wire.

32. (Original) The integrated circuit as set forth in claim 26, wherein the diagonal direction comprises a minus 60 degree direction for the second wire.

33. (Original) The integrated circuit as set forth in claim 26, wherein the diagonal direction comprises a plus 120 degree direction for the second wire.

34. (Original) The integrated circuit as set forth in claim 26, wherein the diagonal direction comprises a minus 30 degree direction for the second wire.

35. (Currently Amended) A method for simulating any wiring direction in an integrated circuit using wires deposed in diagonal and Manhattan directions, the method comprising the steps of:

selecting an effective direction, wherein the effective direction comprises an angle, A, measured relative to the boundaries of the integrated circuit, the angle A defined by the expression Tan A = Y/X;

providing at least one metal layer comprising a plurality of ~~at least two pairs of~~ conductors effectively deposed in the effective direction to interconnect one or more points within the ~~on an~~ integrated circuit~~, wherein a conductor comprises one or more wires and a wire comprises a continuous segment deposed in a single direction~~;

for each conductor ~~pair of conductors~~:

deposing a first wire in a Manhattan direction relative to the boundaries of the integrated circuit, the first wire comprising ~~a first wire length including~~ first and second ends;

deposing a second wire in a diagonal direction relative to the boundaries of the integrated circuit, the second wire comprising ~~a second wire length including~~ first and second ends; and

coupling the first end of the second wire to the second end of the first wire by using the angle A to achieve the effective direction;

~~wherein, the effective direction of the pairs of conductors comprises an angle, A, measured relative to the boundaries of the integrated circuit, defined by the expression Tan A = Y/X; and~~

wherein, Y comprises a line segment with a distance starting from the second end of the second wire ~~in the last conductor pair~~ and ending at an intersection with a line segment propagated from the first end of the first wire and in the direction of the first wire, and X comprises a distance, measured in the direction of the first wire, starting from the first end of the first wire and ending with the intersection of the Y line segment.

Claims 36-47 (Canceled).

48. (New) The method as set forth in claim 35, wherein the Manhattan direction for the first wire comprises a horizontal direction.

49. (New) The method as set forth in claim 35, wherein the Manhattan direction for the first wire comprises a vertical direction.

50. (New) The method as set forth in claim 35, wherein the diagonal direction comprises a plus 45 degree direction for the second wire.

51. (New) The method as set forth in claim 35, wherein the diagonal direction comprises a minus 45 degree direction for the second wire.

52. (New) The method as set forth in claim 35, wherein the diagonal direction comprises a 60 degree direction for the second wire.

53. (New) The method as set forth in claim 35, wherein the diagonal direction comprises a minus 60 degree direction for the second wire.

54. (New) The method as set forth in claim 35, wherein the diagonal direction comprises a plus 120 degree direction for the second wire.

55. (New) The method as set forth in claim 35, wherein the diagonal direction comprises a minus 30 degree direction for the second wire.

56. (New) An integrated circuit (IC) comprising:

a) a metal layer;

b) a set of at least ten routes on said metal layer;

c) each particular route formed by two sets of wire segments that alternate along only two directions, each set of wire segments only having wires along one of said two directions, wherein said two directions are neither parallel nor perpendicular.

57. (New) The IC of claim 55, wherein an angle between said two directions is approximately 45 degrees.

58. (New) The IC of claim 55, said set of at least ten routes on said metal layer comprising at least 1000 routes.

59. (New) The IC of claim 55, wherein a ratio of the length wire segments along one direction to the length of wire segments along the other direction is approximately equal for all said routes.

60. (New) The IC of claim 58, wherein said ratio is selected so that said routes effectively traverse along the metal layer in a particular effective direction.